



RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/502,424A

DATE: 04/02/2003

TIME: 12:14:41

Input Set : A:\082447-0102.txt

Output Set: N:\CRF4\04022003\I502424A.raw

3 <110> APPLICANT: Kilian, Andrzej
 4 Bowtell, David
 6 <120> TITLE OF INVENTION: VERTEBRATE TELOMERASE GENES AND PROTEINS AND USES
 7 THEREOF
 9 <130> FILE REFERENCE: 082447-0103
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/502,424A
 C--> 12 <141> CURRENT FILING DATE: 2000-02-11
 14 <160> NUMBER OF SEQ ID NOS: 155
 16 <170> SOFTWARE: PatentIn Ver. 2.0
 18 <210> SEQ ID NO: 1
 19 <211> LENGTH: 3964
 20 <212> TYPE: DNA
 21 <213> ORGANISM: Homo sapiens
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53 tggagcaagt tgcaaagcat tggaatcaga cagcaattga agagggtgca gctgcgggag 1800
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55 ctccgcctca tccccaaagcc tgacgggctg cggccgattt tgaacatggc ctacgtcg 1920
56 ggagccagaa cggtccgcag agaaaagagg gccgagcgctc tcacctcgag ggtgaaggca 1980
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104 Pro Gln Gly Trp Arg Leu Val Gln Arg Gly Asp Pro Ala Ala Phe Arg
105 35 40 45

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107 Ala Leu Val Ala Gln Cys Leu Val Cys Val Pro Trp Asp Ala Arg Pro
108 50 55 60
110 Pro Pro Ala Ala Pro Ser Phe Arg Gln Val Ser Cys Leu Lys Glu Leu
111 65 70 75 80
113 Val Ala Arg Val Leu Gln Arg Leu Cys Glu Arg Gly Ala Lys Asn Val
114 85 90 95
116 Leu Ala Phe Gly Phe Ala Leu Leu Asp Gly Ala Arg Gly Gly Pro Pro
117 100 105 110
119 Glu Ala Phe Thr Thr Ser Val Arg Ser Tyr Leu Pro Asn Thr Val Thr
120 115 120 125
122 Asp Ala Leu Arg Gly Ser Gly Ala Trp Gly Leu Leu Leu Arg Arg Val
123 130 135 140
125 Gly Asp Asp Val Leu Val His Leu Leu Ala Arg Cys Ala Leu Phe Val
126 145 150 155 160
128 Leu Val Ala Pro Ser Cys Ala Tyr Gln Val Cys Gly Pro Pro Leu Tyr
129 165 170 175
131 Gln Leu Gly Ala Ala Thr Gln Ala Arg Pro Pro Pro His Ala Ser Gly
132 180 185 190
134 Pro Arg Arg Arg Leu Gly Cys Glu Arg Ala Trp Asn His Ser Val Arg
135 195 200 205
137 Glu Ala Gly Val Pro Leu Gly Leu Pro Ala Pro Gly Ala Arg Arg Arg
138 210 215 220
140 Gly Gly Ser Ala Ser Arg Ser Leu Pro Leu Pro Lys Arg Pro Arg Arg
141 225 230 235 240
143 Gly Ala Ala Pro Glu Pro Glu Arg Thr Pro Val Gly Gln Gly Ser Trp
144 245 250 255
146 Ala His Pro Gly Arg Thr Arg Gly Pro Ser Asp Arg Gly Phe Cys Val
147 260 265 270
149 Val Ser Pro Ala Arg Pro Ala Glu Glu Ala Thr Ser Leu Glu Gly Ala
150 275 280 285
152 Leu Ser Gly Thr Arg His Ser His Pro Ser Val Gly Arg Gln His His
153 290 295 300
155 Ala Gly Pro Pro Ser Thr Ser Arg Pro Pro Arg Pro Trp Asp Thr Pro
156 305 310 315 320
158 Cys Pro Pro Val Tyr Ala Glu Thr Lys His Phe Leu Tyr Ser Ser Gly
159 325 330 335
161 Asp Lys Glu Gln Leu Arg Pro Ser Phe Leu Leu Ser Ser Leu Arg Pro
162 340 345 350
164 Ser Leu Thr Gly Ala Arg Arg Leu Val Glu Thr Ile Phe Leu Gly Ser
165 355 360 365
167 Arg Pro Trp Met Pro Gly Thr Pro Arg Arg Leu Pro Arg Leu Pro Gln
168 370 375 380
170 Arg Tyr Trp Gln Met Arg Pro Leu Phe Leu Glu Leu Leu Gly Asn His
171 385 390 395 400
173 Ala Gln Cys Pro Tyr Gly Val Leu Leu Lys Thr His Cys Pro Leu Arg
174 405 410 415
176 Ala Ala Val Thr Pro Ala Ala Gly Val Cys Ala Arg Glu Lys Pro Gln
177 420 425 430
179 Gly Ser Val Ala Ala Pro Glu Glu Asp Thr Asp Pro Arg Arg Leu

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180 435 440 445
182 Val Gln Leu Leu Arg Gln His Ser Ser Pro Trp Gln Val Tyr Gly Phe
183 450 455 460
185 Val Arg Ala Cys Leu Arg Arg Leu Val Pro Pro Gly Leu Trp Gly Ser
186 465 470 475 480
188 Arg His Asn Glu Arg Arg Phe Leu Arg Asn Thr Lys Lys Phe Ile Ser
189 485 490 495
191 Leu Gly Lys His Ala Lys Leu Ser Leu Gln Glu Leu Thr Trp Lys Met
192 500 505 510
194 Ser Val Arg Asp Cys Ala Trp Leu Arg Arg Ser Pro Gly Val Gly Cys
195 515 520 525
197 Val Pro Ala Ala Glu His Arg Leu Arg Glu Glu Ile Leu Ala Lys Phe
198 530 535 540
200 Leu His Trp Leu Met Ser Val Tyr Val Val Glu Leu Leu Arg Ser Phe
201 545 550 555 560
203 Phe Tyr Val Thr Glu Thr Phe Gln Lys Asn Arg Leu Phe Phe Tyr
204 565 570 575
206 Arg Lys Ser Val Trp Ser Lys Leu Gln Ser Ile Gly Ile Arg Gln His
207 580 585 590
209 Leu Lys Arg Val Gln Leu Arg Glu Leu Ser Glu Ala Glu Val Arg Gln
210 595 600 605
212 His Arg Glu Ala Arg Pro Ala Leu Leu Thr Ser Arg Leu Arg Phe Ile
213 610 615 620
215 Pro Lys Pro Asp Gly Leu Arg Pro Ile Val Asn Met Asp Tyr Val Val
216 625 630 635 640
218 Gly Ala Arg Thr Phe Arg Arg Glu Lys Arg Ala Glu Arg Leu Thr Ser
219 645 650 655
221 Arg Val Lys Ala Leu Phe Ser Val Leu Asn Tyr Glu Arg Ala Arg Arg
222 660 665 670
224 Pro Gly Leu Leu Gly Ala Ser Val Leu Gly Leu Asp Asp Ile His Arg
225 675 680 685
227 Ala Trp Arg Thr Phe Val Leu Arg Val Arg Ala Gln Asp Pro Pro Pro
228 690 695 700
230 Glu Leu Tyr Phe Val Lys Val Asp Val Thr Gly Ala Tyr Asp Thr Ile
231 705 710 715 720
233 Pro Gln Asp Arg Leu Thr Glu Val Ile Ala Ser Ile Ile Lys Pro Gln
234 725 730 735
236 Asn Thr Tyr Cys Val Arg Arg Tyr Ala Val Val Gln Lys Ala Ala His
237 740 745 750
239 Gly His Val Arg Lys Ala Phe Lys Ser His Val Ser Thr Leu Thr Asp
240 755 760 765
242 Leu Gln Pro Tyr Met Arg Gln Phe Val Ala His Leu Gln Glu Thr Ser
243 770 775 780
245 Pro Leu Arg Asp Ala Val Val Ile Glu Gln Ser Ser Ser Leu Asn Glu
246 785 790 795 800
248 Ala Ser Ser Gly Leu Phe Asp Val Phe Leu Arg Phe Met Cys His His
249 805 810 815
251 Ala Val Arg Ile Arg Gly Lys Ser Tyr Val Gln Cys Gln Gly Ile Pro
252 820 825 830

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Input Set : A:\082447-0102.txt
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254 Gln Gly Ser Ile Leu Ser Thr Leu Leu Cys Ser Leu Cys Tyr Gly Asp
255 835 840 845
257 Met Glu Asn Lys Leu Phe Ala Gly Ile Arg Arg Asp Gly Leu Leu Leu
258 850 855 860
260 Arg Leu Val Asp Asp Phe Leu Leu Val Thr Pro His Leu Thr His Ala
261 865 870 875 880
263 Lys Thr Phe Leu Arg Thr Leu Val Arg Gly Val Pro Glu Tyr Gly Cys
264 885 890 895
266 Val Val Asn Leu Arg Lys Thr Val Val Asn Phe Pro Val Glu Asp Glu
267 900 905 910
269 Ala Leu Gly Gly Thr Ala Phe Val Gln Met Pro Ala His Gly Leu Phe
270 915 920 925
272 Pro Trp Cys Gly Leu Leu Leu Asp Thr Arg Thr Leu Glu Val Gln Ser
273 930 935 940
275 Asp Tyr Ser Ser Tyr Ala Arg Thr Ser Ile Arg Ala Ser Leu Thr Phe
276 945 950 955 960
278 Asn Arg Gly Phe Lys Ala Gly Arg Asn Met Arg Arg Lys Leu Phe Gly
279 965 970 975
281 Val Leu Arg Leu Lys Cys His Ser Leu Phe Leu Asp Leu Gln Val Asn
282 980 985 990
284 Ser Leu Gln Thr Val Cys Thr Asn Ile Tyr Lys Ile Leu Leu Leu Gln
285 995 1000 1005
287 Ala Tyr Arg Phe His Ala Cys Val Leu Gln Leu Pro Phe His Gln Gln
288 1010 1015 1020
290 Val Trp Lys Asn Pro Thr Phe Phe Leu Arg Val Ile Ser Asp Thr Ala
291 1025 1030 1035 1040
293 Ser Leu Cys Tyr Ser Ile Leu Lys Ala Lys Asn Ala Gly Met Ser Leu
294 1045 1050 1055
296 Gly Ala Lys Gly Ala Ala Gly Pro Leu Pro Ser Glu Ala Val Gln Trp
297 1060 1065 1070
299 Leu Cys His Gln Ala Phe Leu Leu Lys Leu Thr Arg His Arg Val Thr
300 1075 1080 1085
302 Tyr Val Pro Leu Leu Gly Ser Leu Arg Thr Ala Gln Thr Gln Leu Ser
303 1090 1095 1100
305 Arg Lys Leu Pro Gly Thr Thr Leu Thr Ala Leu Glu Ala Ala Ala Asn
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317 <400> SEQUENCE: 3
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321 Ala Leu Lys Thr Cys Glu Glu Ile Lys Glu Ala Lys Thr Leu Tyr Ser
322 20 25 30
324 Trp Ile Gln Lys Val Ile Arg Cys Arg Asn Gln Ser Gln Ser His Tyr
325 35 40 45

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/502,424A

DATE: 04/02/2003
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Input Set : A:\082447-0102.txt
Output Set: N:\CRF4\04022003\I502424A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

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Seq#:34; N Pos. 1767,1768,1769
Seq#:51; N Pos. 1871,1872,1873
Seq#:91; Xaa Pos. 2,3,4,5
Seq#:93; Xaa Pos. 2,3,4,5,7,8
Seq#:95; N Pos. 1,2,3,5,9,10,11,12,13,14